OGC
Open GIS Consortium

Advancing Geospatial Interoperability: OGC Progress Report

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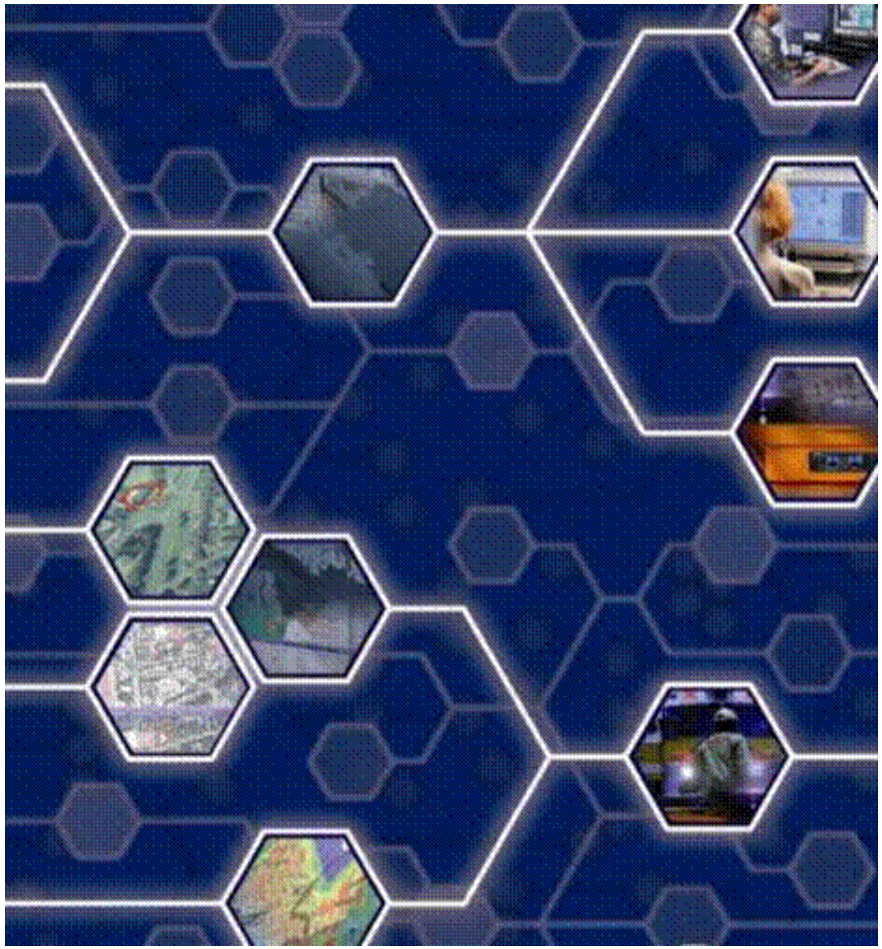
The Open GIS Consortium Vision

A world in which everyone benefits from geographic information and services made available across any network, application, or platform.



OGC Vision Advancing Around The World

- UK Ordnance Survey (think USGS NMD) using ‘only’ GML format to distribute its new, premier MasterMap product
- Canada Geospatial Data Infrastructure (CGDI) using ‘only’ OGC Web Service Specifications for geographic components
- Australia CANRI using ‘only’ OGC Web Service Specifications for geographic components
- European Union INSPIRE framework built around OGC Web Services for geographic components
- NASA Earth Science Gateway v1, prototype uses OGC Web Services for geographic components
- Canadian Forestry Service implements OpenGIS based process to integrate forestry data nationwide
- Open Location Services being built into consumer offerings from major location services vendors

Agenda

- Update on specifications approved, and those close to adoption
- Cookbook Status
- Upcoming Initiatives
- GOS Transportation Pilot
- New Projects In-Work
- Liaison Activities
- GovSIG

OpenGIS® Specifications

- Simple Feature Access – OLE, SQL, CORBA (3 specs)
- Catalog 1.1.1
- Coordinate Transformation 1.1
- Grid Coverages 1.0
- Web Map Service 1.2 (WMS)
- Web Map Context 1.0*
- Geography Markup Language 3.0 (GML)
- Web Feature Service 1.0
- Filter 1.0
- Style Layer Descriptor 1.0 (SLD)
- Web Coverage Service 1.0 (WCS)*
- Web Terrain Service 0.0 (WTS)
- Open LS 1.0
- Multitude of Interoperability Program Reports (DIPRs)

Cookbook Status

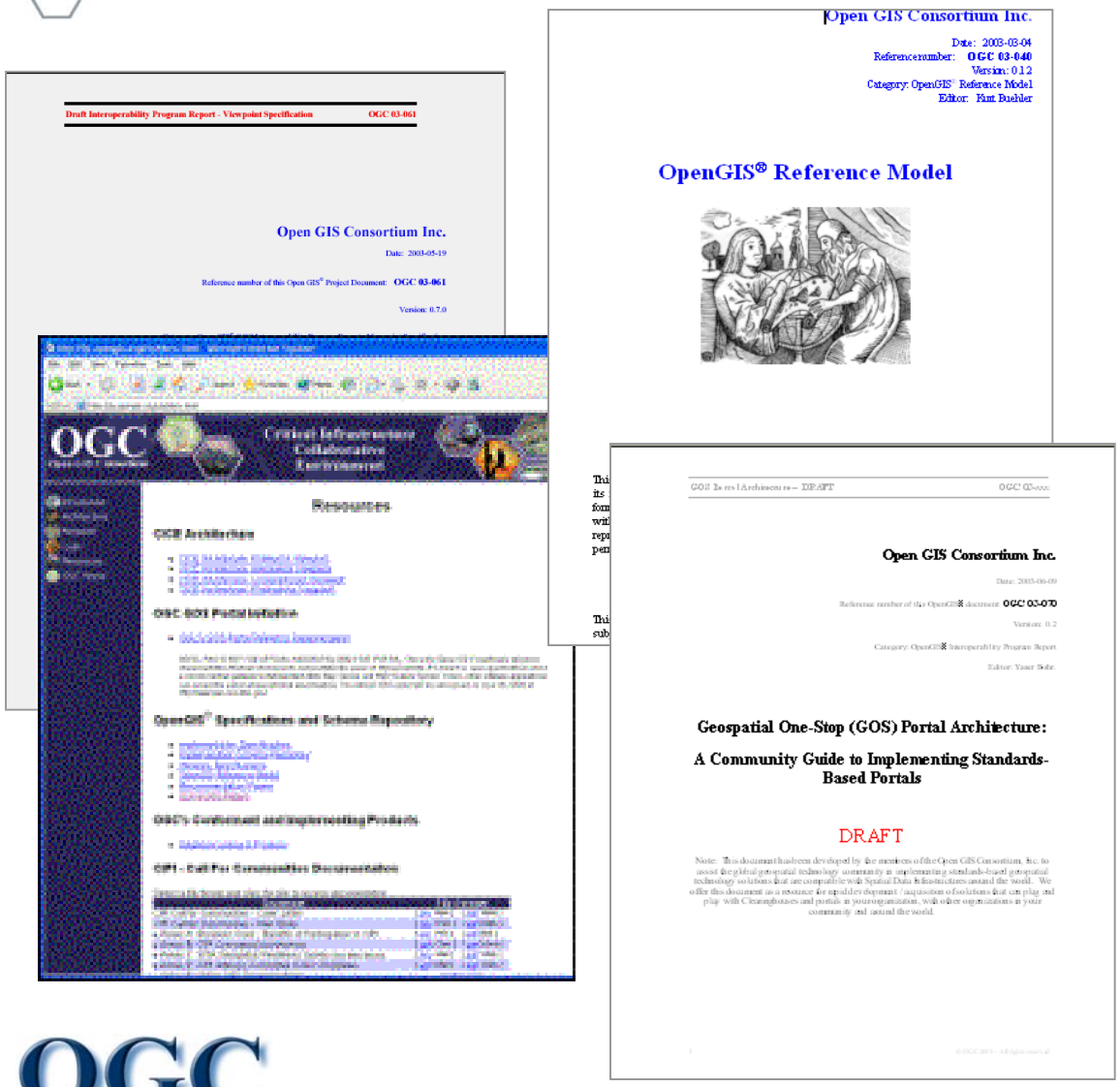
- Web Mapping on the street - being widely used in universities and communities

- Web Feature Service Cookbook in work and available by Feb 2004

Upcoming Work

- OGC Reference Architecture Documents
- OGC Web Services (OWS) 2.0
- Emergency Mapping Symbology (EMS) Initiative
- Enterprise Architecture Special Interest Group

Interoperable Reference Models and Architectures Focus on Enterprise Integration



- OGC Reference Model
- A Community Guide to Implementing Standards-based Portals DRAFT
- Critical Infrastructure Collaborative Environment

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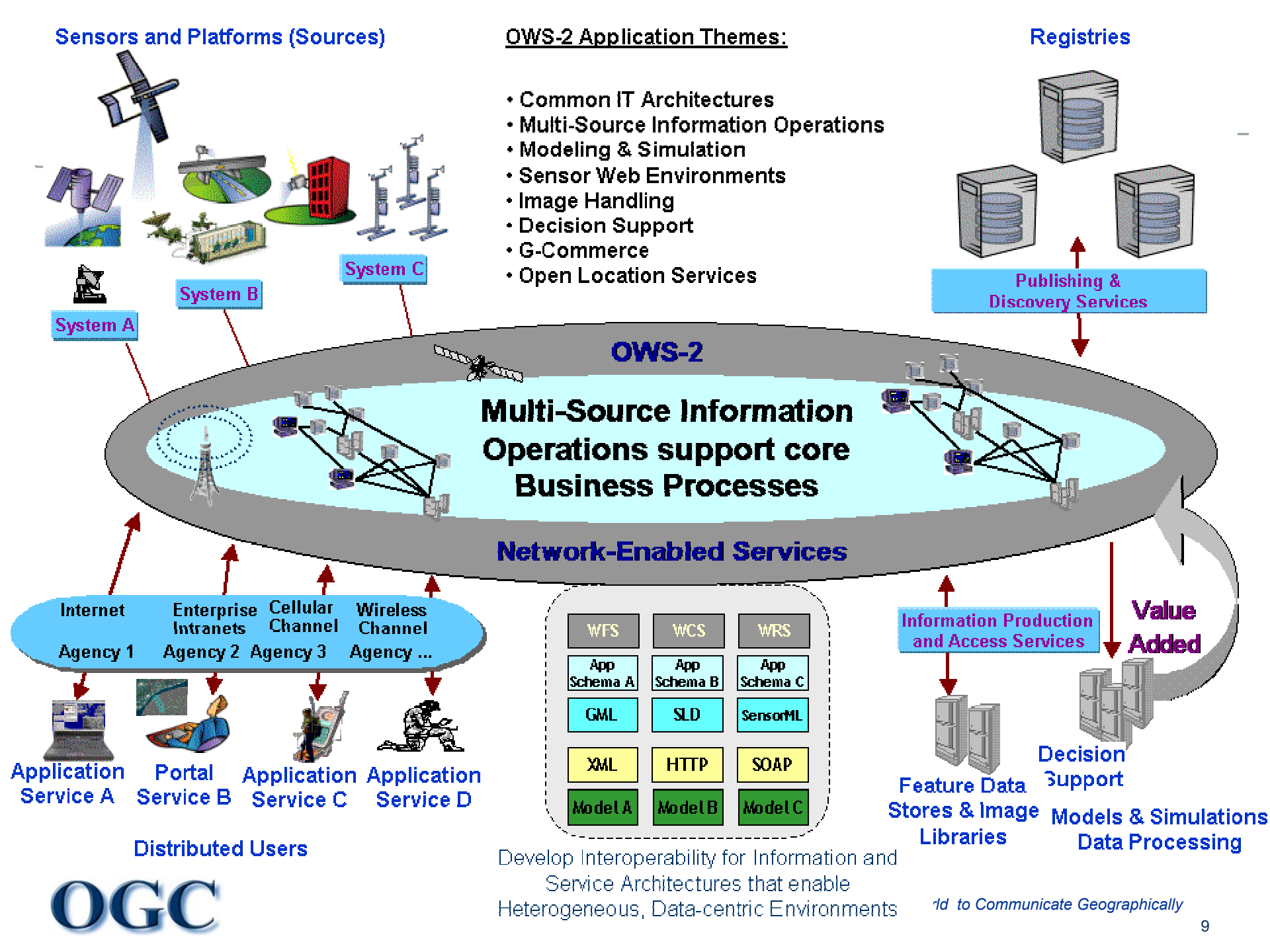
Helping the World to Communicate Geographically


Sensors and Platforms (Sources)
OWS-2 Application Themes:
• Common IT Architectures
• Multi-Source Information Operations
• Modeling & Simulation
• Sensor Web Environments
• Image Handling
• Decision Support
• G-Commerce
• Open Location Services
Registries
System A
System B
System C
Publishing & Discovery Services
OWS-2
Multi-Source Information Operations support core Business Processes
Network-Enabled Services
Internet
Enterprise Intranets
Cellular Channel
Wireless Channel
Agency 1
Agency 2
Agency 3
Agency ...
WFS
WCS
WRS
App Schema A
App Schema B
App Schema C
GML
SLD
SensorML
XML
HTTP
SOAP
Model A
Model B
Model C
Information Production and Access Services
Value Added
Application Service A
Portal Service B
Application Service C
Application Service D
Feature Data Stores & Image Libraries
Decision Support
Models & Simulations Data Processing
Distributed Users
Develop Interoperability for Information and Service Architectures that enable Heterogeneous, Data-centric Environments
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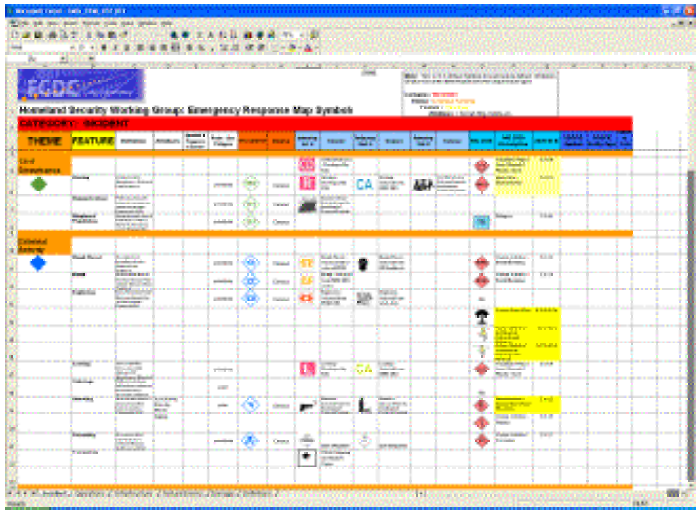
rld to Communicate Geographically

OWS-2 Status

- RFP Released 22 November 2003
- Responses Due 9 January 2004
- Kickoff Scheduled 8-12 March 2004
- Completion Scheduled August 2004

Overview of EMSYS

- Collaborative effort to support maturation of present and emerging Style Management capabilities in the OGC Technical Baseline
- The application focus is Emergency Mapping Symbology
  - Will utilize Emergency Response Mapping Symbology (work underway within the FGDC Homeland Security Working Group)
  - Will utilize Geospatial Symbols (GeoSym) for Digital Displays



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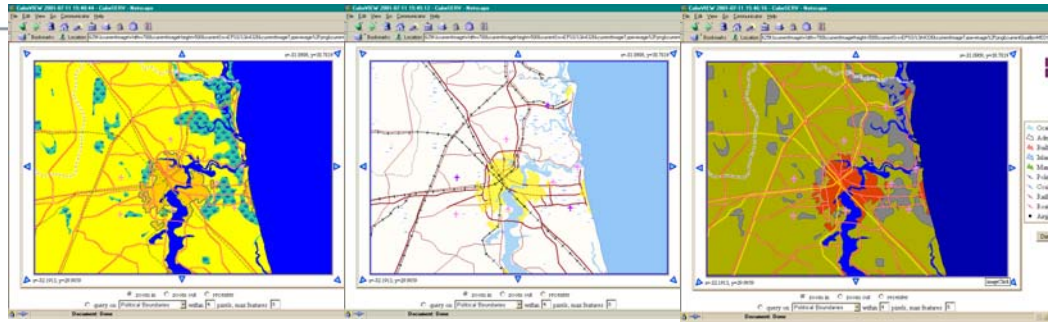
Goals of EMSYS

- Mature OGC specifications
  - Style Management Service (SMS) and its components:
    - Catalog Service-Web Profile (CS-W, was WRS),
    - Web Object Service (WOS)
    - Styled Layer Descriptor (SLD)
  - Web Mapping Service (WMS), SLD Enhancement
- Promote the operational validation and assessment of emerging Emergency Mapping Symbology specifications
- Advance an interoperable architecture capable of improved web-based management, discovery, access and application of geographic information, feature symbolization and styles to meet the needs of various organizations
- Provide feedback into ongoing development efforts

Basics...



SLD Registry (WRS)

Style (Type) Registry (WRS)

e.g., Fred's SLD

e.g., Fred's style fragments

references

Style Repository (WOS)

references

Symbol Repository (WOS)

Style & Symbol Registries & Repositories

Style Management Service

Product View

Styles refer to Features (Types and Attribute values)

uses SLD

Web Map Server (WMS)

Web Feature Server (WFS)

SMS is the collection of interfaces for accessing Style and Symbol Repositories and Registries

Emergency Mapping Symbology Status

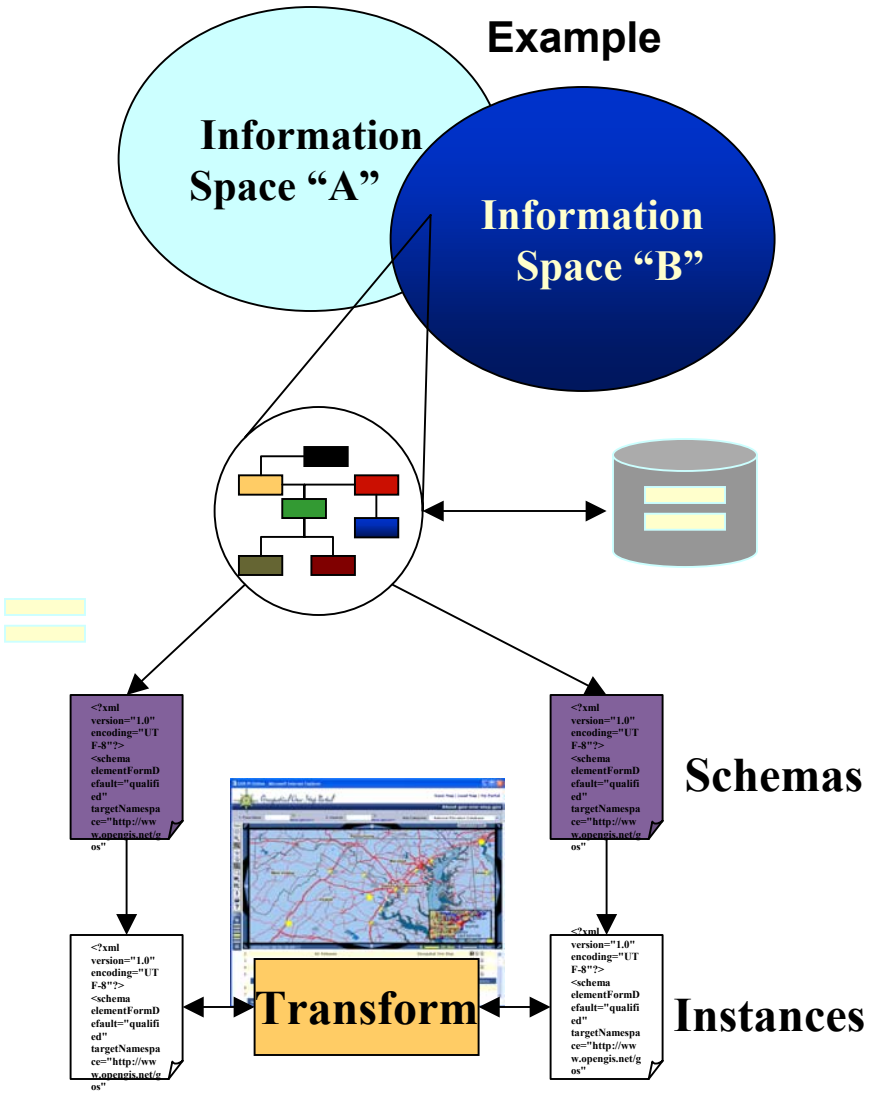
- RFP Released 20 November 2003
- Responses Due 16 December 2003
- Kickoff Scheduled 19 December 2003
- Completion 31 March 2004

GOS - Transportation Pilot Significance

- Implements Road Component of the Framework Data Standard
- Proves that Framework Standards, developed through the Geospatial One Stop process, can be used to translate data to/from local schemas and recognized standard schema
- Allows user to seamlessly view and obtain geographic data that are stored and maintained by independent organizations in different formats and data models

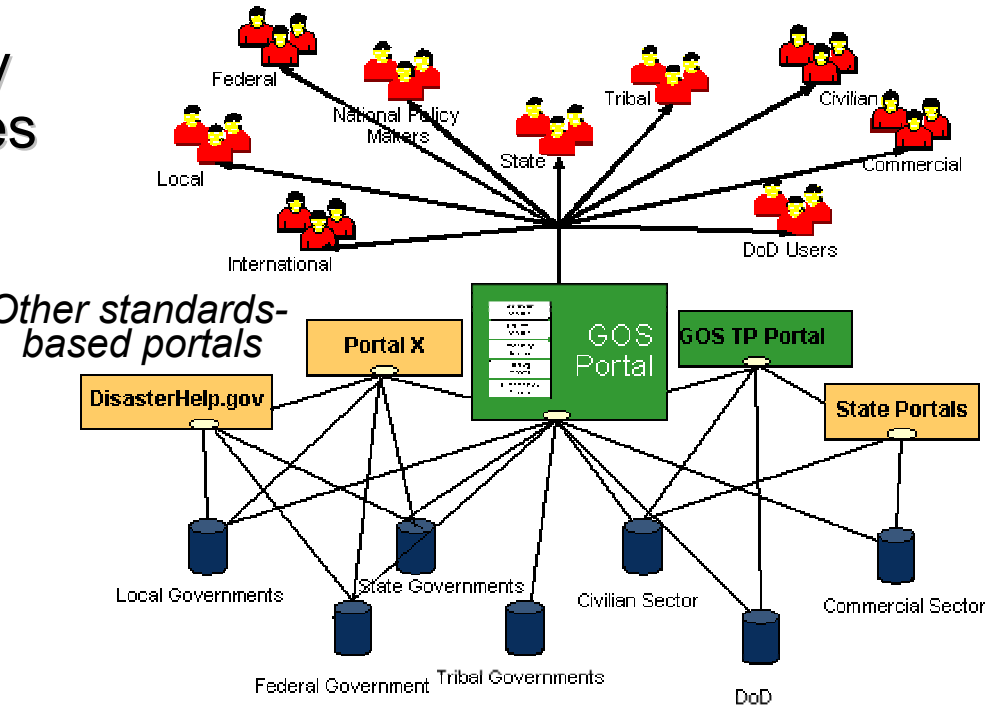
Information Interoperability Emerging...

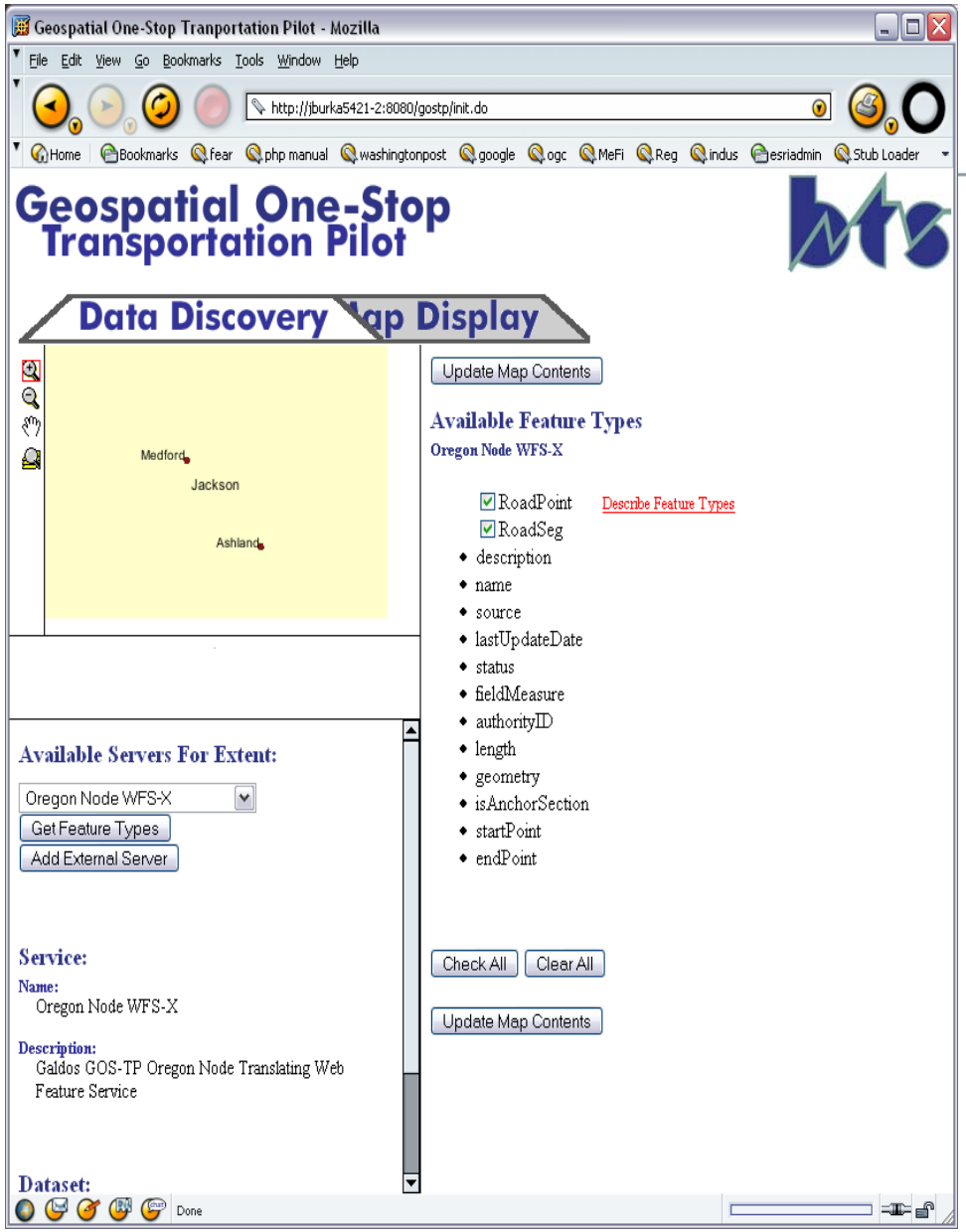
- ***Multi-directional data transformation capabilities essential***
- *THIS MEANS…..*
- *Variable Platforms and ways for dealing with objects*
- *Varying Semantics*
- *Network -centric viewpoints with varying Business Processes*
  - *Workflow*
  - *Policy*



OGC Support to E-Government: GOS-TP

- Supports Spatial Data Infrastructure (SDI) implementation
- OGC GOS-Transportation Pilot goal – spatial data maintained by various collaborating communities can be readily accessed, integrated, fused and applied to support critical decision-making
- Develops open architecture and implementations for Geospatial Portals

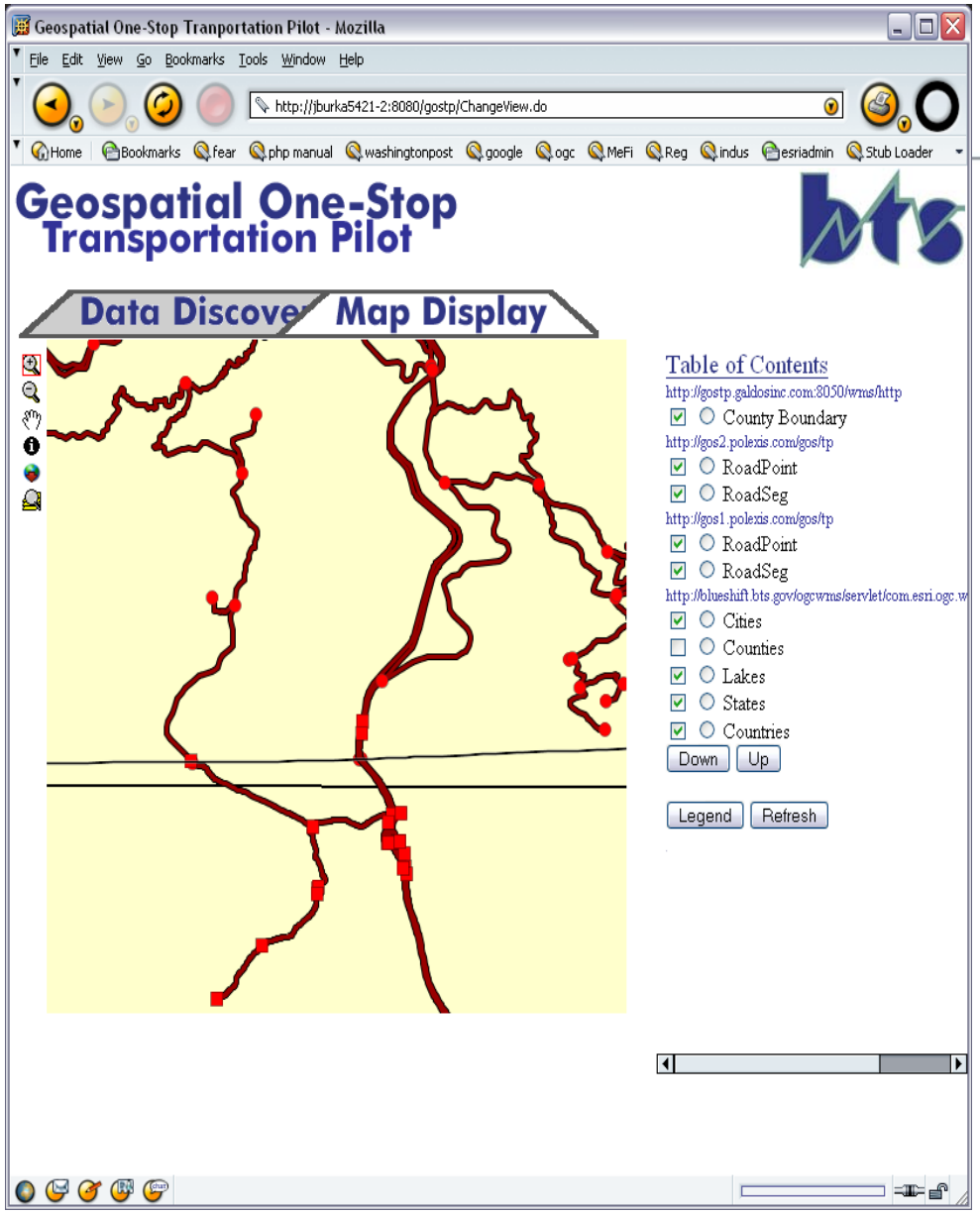




Data Discovery

- Allows users to find data providers
- Lists the available data and their attributes
- Provides metadata in XML or Styled XML

Data Display



- Data from multiple providers are integrated and displayed
- Transparent Translation
- Implements Road Framework Standard
- Data available for download in Geography Markup Language

Implications

- GOS-TP directly addresses critical issues of “Information Interoperability”, or semantic issues between data sources.
  - Achieving common outputs from disparate data models at minimal cost
  - Critical to programs requiring integration of data contributed from multiple levels of government and private sector sources (National Map, GOS Portal, etc)
- Applies to NSDI Framework layers and other, more detailed sources of spatial data needed for programs requiring local, regional, national collaboration

GOS-Transportation Pilot Status

- Technical Work Completed
- Awaiting machine transfer to counties
- DOT examining diffusion strategies
- Will be demonstrated again on December 8th at GOVSIG meeting at DOT / BTS

New Activities In-Work

- Kentucky Government office of Technology to 'pilot' an Open GIS architecture to make imagery and data available online in the state (National Map node ?)
  - Contract signed, work begins in January 2004
- Enterprise Architecture Special Interest Group (EASIG)
  - Open to members and non-members
  - Initial focus on architecture needs to fully integrate GI into IT
  - DISA sponsoring effort within the EASIG to collaboratively define Core Services for the Global Information Grid Enterprise Services
- Interoperability Experiments
  - Lightweight, member-driven process
  - Augments existing testbed, pilot capability
  - See the policy document at

Liaison Activities

- ISO TC 211
  - Updated Terms of Reference (Work Rules)
  - ISO 19128 (WMS) moving to Draft International Specification (DIS)
  - ISO 19136 (GML) approaching Committee Draft (CD)
  - Web Feature Service and Filter Encoding next
    - TC211 requested: Ionic in Belgium Project Manager and CubeWerx in Canada document editor
- ISO TC 204 Class A status
- CEN TC 287 (European)
  - Liaison relationship initiated
- ANSI / CGSB North America agreement
  - OGC interested in 'formal relationship'

Liaison Activities Continued

- Digital Geographic Information Working Group (DGIWG)
  - Liaison document in negotiation
- W3C "Great cultural synergy between W3C and OGC," Tim Berners-Lee
  - Examining closer working relationship, particularly in the area of the semantic web
- Oasis
  - OGC Staff Chairs GIS Subcommittee of Emergency Management Technical Committee at Oasis
- WebSIM
  - Successful collaboration on symposium by OGC, OMG, Web3D and SISO
  - Looking at potential for cross-consortia project to advance WebSIM standards

Addressing Government Needs for Interoperability

- GovSIG
  - Meets regularly to address requirements and interests of government.
  - Open to members and non-members
  - Next meeting 8 December 2003 at DOT/BTS
    - Automated Licensing
    - ROI in the OGC process
    - In-depth GOS Transportation Pilot
- New Membership level for sub-national governments in place
- Building new services for government
  - Training / Seminars
  - OGC User
  - Cookbooks

For More Information

www.opengis.org